

CLAIMS

1. A numerical control apparatus comprising a numerical control part for outputting a move command, a motor control part for generating a PWM signal for a plurality of motors based on the move command from the numerical control part, and a motor amplifier for driving each of said motors based on the PWM signal from the motor control part, wherein

said numerical control part is integrally placed with a display;

said motor control part is configured so as to control a plurality of motors with one motor control part, and said motor control part and said plurality of motor amplifiers are placed on a power panel; and

said numerical control part and said motor control part are connected by a serial communication line.

2. A numerical control apparatus comprising a numerical control part for outputting a move command, a motor control part for generating a PWM signal for a plurality of motors based on the move command from the numerical control part, and a motor amplifier for driving each of said motors based on the PWM signal from the motor control part, wherein

said numerical control part is integrally placed with a display;

said motor control part is configured so as to control a plurality of motors with one motor control part, and said

motor control part and said plurality of motor amplifiers are placed on an power panel;

said motor control part is incorporated into at least one of said plurality of motor amplifiers; and

said numerical control part and said motor control part incorporated into said motor amplifier are connected by a serial communication line.

3. A numerical control apparatus comprising a numerical control part for outputting a move command, a motor control part for generating a PWM signal for a plurality of motors based on the move command from the numerical control part, and a motor amplifier for driving each of said each motor based on the PWM signal from the motor control part, wherein:

said numerical control part is integrally placed with a display;

said motor control part is incorporated into an amplifier power supply, and said motor control part is placed on the power panel along with said plurality of motor amplifiers; and

said numerical control part and said motor control part incorporated into an amplifier power supply are connected through a serial communication line.

4. The numerical control apparatus according to claim 1, 2 or 3, wherein said motor control part and said plurality of motor amplifiers are connected by an electric cable.

5. The numerical control apparatus according to claim 1, 2, or 3, wherein said motor control part and said plurality of motor amplifiers are connected by a serial communication line.

6. A numerical control apparatus comprising:
a numerical control part for outputting a move command,
a plurality of motor amplifiers for driving motors, and
a motor control part for generating a motor drive signal to be sent to said plurality of motor amplifiers based on the move command from said numerical control part, wherein
said motor control part is located outside the said numerical control part, and the sections between said numerical control part and said motor control part, and between said motor control part and said plurality of motor amplifiers are connected by a communication path.

7. A numerical control apparatus comprising:
a numerical control part for outputting a move command;
a plurality of motor amplifiers belonging to a first group and for driving motors;
one or more motor amplifiers belonging to a second group;
a first motor control part for generating a motor drive signal to be sent to said plurality of motor amplifiers belonging to the first group based on the move command from said numerical control part; and

a second motor control part for generating a motor drive signal to be sent to said motor amplifier belonging to the second group, wherein

said first and second motor control part are placed outside said numerical control part respectively and are linked to said numerical control part in a daisy chain mode through a serial communication path.